2827

PATENT APPLICATION

IN THE UNITED STATES PATENT AND TRADEMARK OFFICE

In re application of

Masamoto TAGO

Docket No: Q67536

Appln. No.: 09/998,243

Group Art Unit: 2827

Confirmation No.: 6291

Examiner: Lourdes C. Cruz

Filed: December 3, 2001

For: COMPACT SEMICONDUCTOR DEVICE CAPABLE OF MOUNTING A PLURALITY OF SEMICONDUCTOR CHIPS WITH HIGH DENSITY AND METHOD OF MANUFACTURING THE SAME

INFORMATION DISCLOSURE STATEMENT UNDER 37 C.F.R. §§ 1.97 and 1.98

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

In accordance with the duty of disclosure under 37 C.F.R. § 1.56, Applicant hereby notifies the U.S. Patent and Trademark Office of the documents which are listed on the attached PTO/SB/08 A & B (modified) form and listed herein and which the Examiner may deem material to patentability of the claims of the above-identified application.

1. United States Patent No. 5,977,640, issued November 2, 1999.

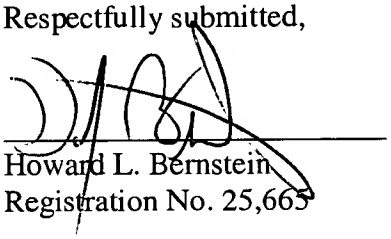
One copy of each of the listed documents is submitted herewith, along with a copy of the corresponding Taiwanese Office Action.

The present Information Disclosure Statement is being filed after the later of three months from the application's filing date and the mailing date of the first Office Action on the merits, but before a Final Office Action, Notice of Allowance, or an action that otherwise closes

prosecution in the application (whichever is earlier), and therefore Applicant is filing concurrently herewith a Statement Under 37 C.F.R. § 1.97(e). No fee under 37 C.F.R. § 1.17(p) is required.

The submission of the listed documents is not intended as an admission that any such document constitutes prior art against the claims of the present application. Applicant does not waive any right to take any action that would be appropriate to antedate or otherwise remove any listed document as a competent reference against the claims of the present application.

Respectfully submitted,



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WASHINGTON OFFICE

23373
PATENT TRADEMARK OFFICE

Date: May 14, 2003

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STATEMENT UNDER 37 C.F.R. § 1.97(e)

Commissioner for Patents
P.O. Box 1450
Alexandria, VA 22313-1450

Sir:

The undersigned hereby states, upon information and belief:

That each item of information contained in the Information Disclosure Statement filed concurrently herewith was first cited in any communication from a foreign patent office in a counterpart foreign application not more than three months prior to the filing of said Information Disclosure Statement.

Respectfully submitted,

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WASHINGTON OFFICE

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PATENT TRADEMARK OFFICE

Date: May 14, 2003

Substitute for Form 1449 A & B/PTO

INFORMATION DISCLOSURE STATEMENT BY APPLICANT

(use as many sheets as necessary)

Sheet	1	of	1

Complete if Known	
Application Number	09/998,243
Confirmation Number	6291
Filing Date	December 03, 2001
First Named Inventor	Masamoto TAGO
Art Unit	2827
Examiner Name	Lourdes C. Cruz
Attorney Docket Number	Q67536

U.S. PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Document Number: Number	Document Number: Kind Code[2] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document
		US 5,977,640		11-02-1999	Bertin et al.
		US			
		US			
		US			
		US			
		US			
		US			
		US			
		US			

FOREIGN PATENT DOCUMENTS

Examiner Initials*	Cite No.[1]	Foreign Patent Document: Country Code[3]	Foreign Patent Document: Number[4]	Foreign Patent Document: Kind Code[5] (if known)	Publication Date MM-DD-YYYY	Name of Patentee or Applicant of Cited Document	Translation[6]

OTHER ART - NON PATENT LITERATURE DOCUMENTS

Examiner Initials*	Cite No.[1]	Include name of the author (in CAPITAL LETTERS), title of the article (when appropriate), title of the item (book, magazine, journal, serial, symposium, catalog, etc.), date, page(s), volume-issue number(s), publisher, city, and/or country where published.	Translation[6]

Examiner Signature		Date Considered	

*EXAMINER: Initial if reference considered, whether or not citation is in conformance with MPEP 609. Draw line through citation if not in conformance and not considered. Include copy of this form with next communication to applicant.

[1]Applicant's unique citation designation number (optional). [2]See Kind Codes of USPTO Patent Documents at www.uspto.gov, MPEP 901.04 or in the comment box of this document. [3] Enter Office that issued the document, by the two-letter code (WIPO Standard ST. 3). [4]For Japanese patent documents, the indication of the year of the reign of the Emperor must precede the serial number of the patent document. [5]Kind of document by the appropriate symbols as indicated on the document under WIPO Standard ST. 16 if possible. [6] Applicant is to indicate here if English language Translation is attached.

TRANSLATION OF REJECTION REASONS

Rejection Reasons:

1. This application "COMPACT SEMICONDUCTOR DEVICE CAPABLE OF MOUNTING A PLURALITY OF SEMICONDUCTOR CHIPS WITH HIGH DENSITY AND METHOD OF MANUFACTURING THE SAME" comprises a first semiconductor chip, an external connecting terminal, and a second semiconductor chip. This application is mainly characterized in that the second semiconductor chip is connected to the first semiconductor chip through a bump and the height of the second semiconductor chip is smaller than that of the external connecting terminal.

2. However, through patent search, it is found that the aforementioned characteristics of this application have been disclosed in US Patent No. 5,977,640, published on November 2, 1999 (corresponding to TW Patent Publication No. 423082, hereinafter referred to as the Citation, see Attachments 1 and 2). In specific, the Citation disclosed, in its FIGs. 1 and 2, a chip-on-chip device which is characterized in that two chips are connected with each other through solder balls and the height of a solder column 22 (or solder ball 24) is at least equal to that of a chip 40. Since this application recites the same features as those of the Citation, it should be easily derived from the Citation by a person skilled in the art and thus involves no inventive step.

Summing up the above, since this application simply utilizes conventional technology or knowledge known prior to applying for patent, and can be accomplished easily by persons skilled in the art, it does not meet the requirement for an invention.

In conclusion, this application does not meet the stipulated requirement for patentability and should be rejected according to Item 2, Article 20 of the Patent Law.

正本

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經濟部智慧財產局專利核駁審定書

受文者：日本電氣股份有限公司（代理人：周良謀 先生）

地址：新竹市東大路一段一一八號十樓

發文日期：中華民國九十二年四月四日

發文字號：〈九二〉智專二（一）04092字第〇九二二〇三三八九九〇號

一、申請案號數：〇九〇一二九九〇六　　專利分類IPC(7)…：H01L 25/18

二、發明名稱：能以高密度安裝多數半導體晶片之緊密半導體裝置及其製造方法

三、申請人：

名稱：日本電氣股份有限公司

地址：日本

四、專利代理人：

姓名：周良謀 先生

地址：新竹市東大路一段一一八號十樓

五、申請日期：九十年十一月三十日

六、優先權項目：

1 2000/12/01 日本2000-366900

裝 訂 線

第一頁

c:\A9200110.090

09220338990

七、審查人員姓名：王祥宇　委員

八、審定內容：

主文：本案應不予專利。

依據：專利法第二十條第二項。

理由：

（一）本案「能以高密度安裝多數半導體晶片之緊密半導體裝置及其製造方法」，包括第一半導體晶片、外部連接端子、第二半導體晶片，其主要技術特徵為第二半導體晶片經由一凸塊連接至第一半導體晶片，第二半導體晶片高度小於外部連接端子。

（二）經查西元一九九九年十一月二日公告之美國專利5977640號（本國專利第423082號），即揭示一種晶片疊上晶片裝置（chip on chip），Fig.1&2中將兩晶片藉由凸塊結合在一起之構造，且錫球(24、22)之高度至少等同晶片40，與本案主要特徵相同，故熟悉該項技術者可輕易由引證案而推知本案技術，故不具進步性。

（三）綜上所述，本案係運用申請前既有技術或知識，而為熟習該項技術者所能輕易完成者，難謂符合發明專利要件。

據上論結，本案不符法定專利要件，爰依專利法第二十條第二項，審定如主文。

局長 蔡練生

依照分層負責規定授權單位主管決行

如不服本審定，得於文到之次日起三十日內，備具再審查理由書一式二份及規費新台幣陸仟元整（專利說明書及圖式合計在五十頁以上者，每五十頁加收新台幣五百元，其不足五十頁者以五十頁計），向本局申請再審查。